

AF Nikkor 50mm f/1.8 (New)



REPAIR MANUAL

Nikon | NIKON CORPORATION
Tokyo, Japan

[2] S p e c i f i c a t i o n s

Focal length:	50mm
Maximum aperture:	1 : 1.8
Lens construction:	6 elements 5 groups
Picture angle:	46°
Distance scale:	$\infty \sim 0.45\text{m}, 1.5\text{ft}$
Focusing:	Rotating angle 145° 40'
Aperture scale:	1.8, 2.8, 4, 5.6, 8, 11, 16, 22
Diaphragm:	Fully automatic Minimum aperture lock is possible
Metering:	Full-aperture measurement
Mount:	Nikon F mount
Attachment size:	52mm (P=0.75mm)
Dimensions:	$\phi 63$ (dia.) $\times$ 39mm (long)
Weight:	Approx. 155g

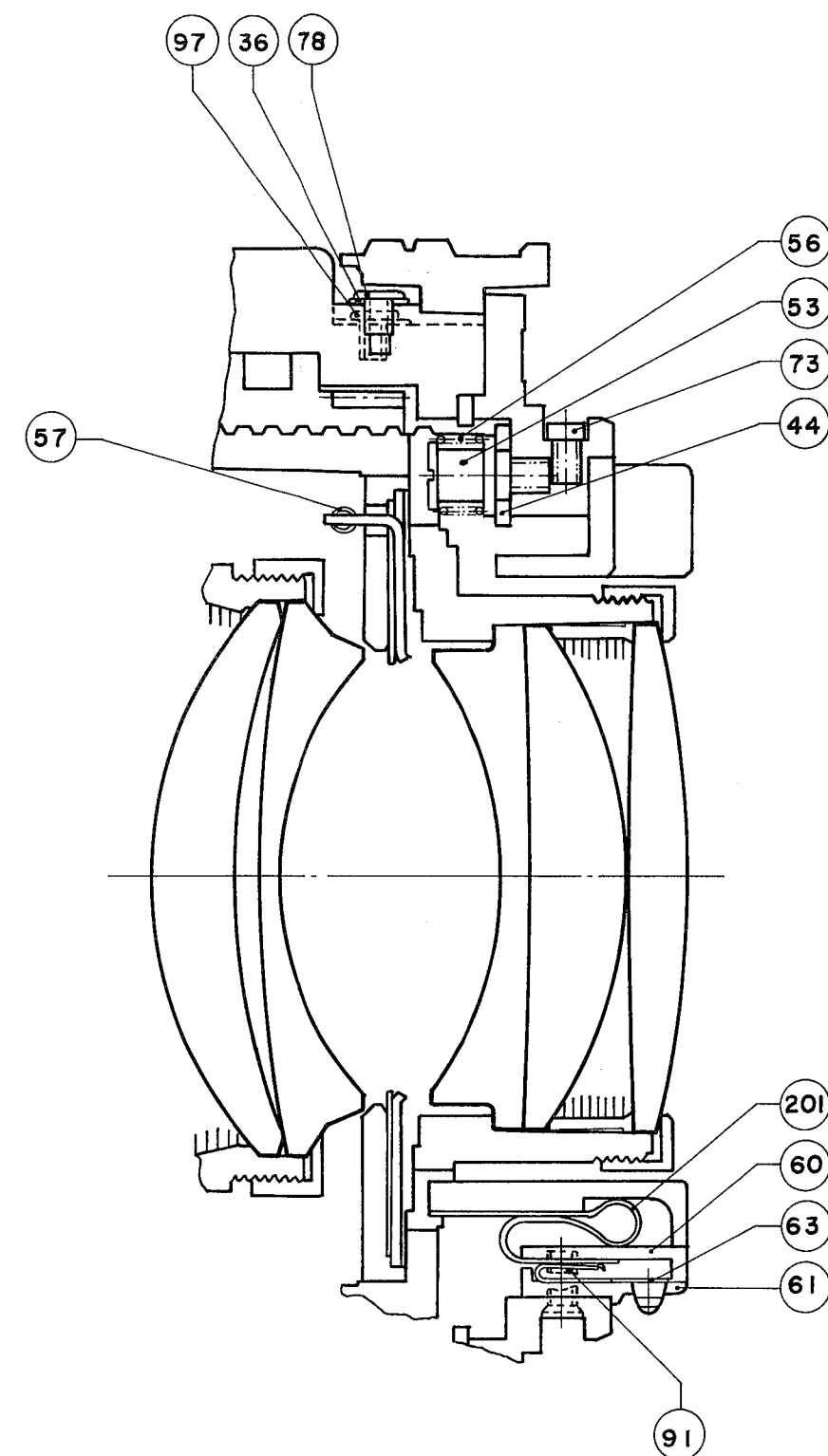
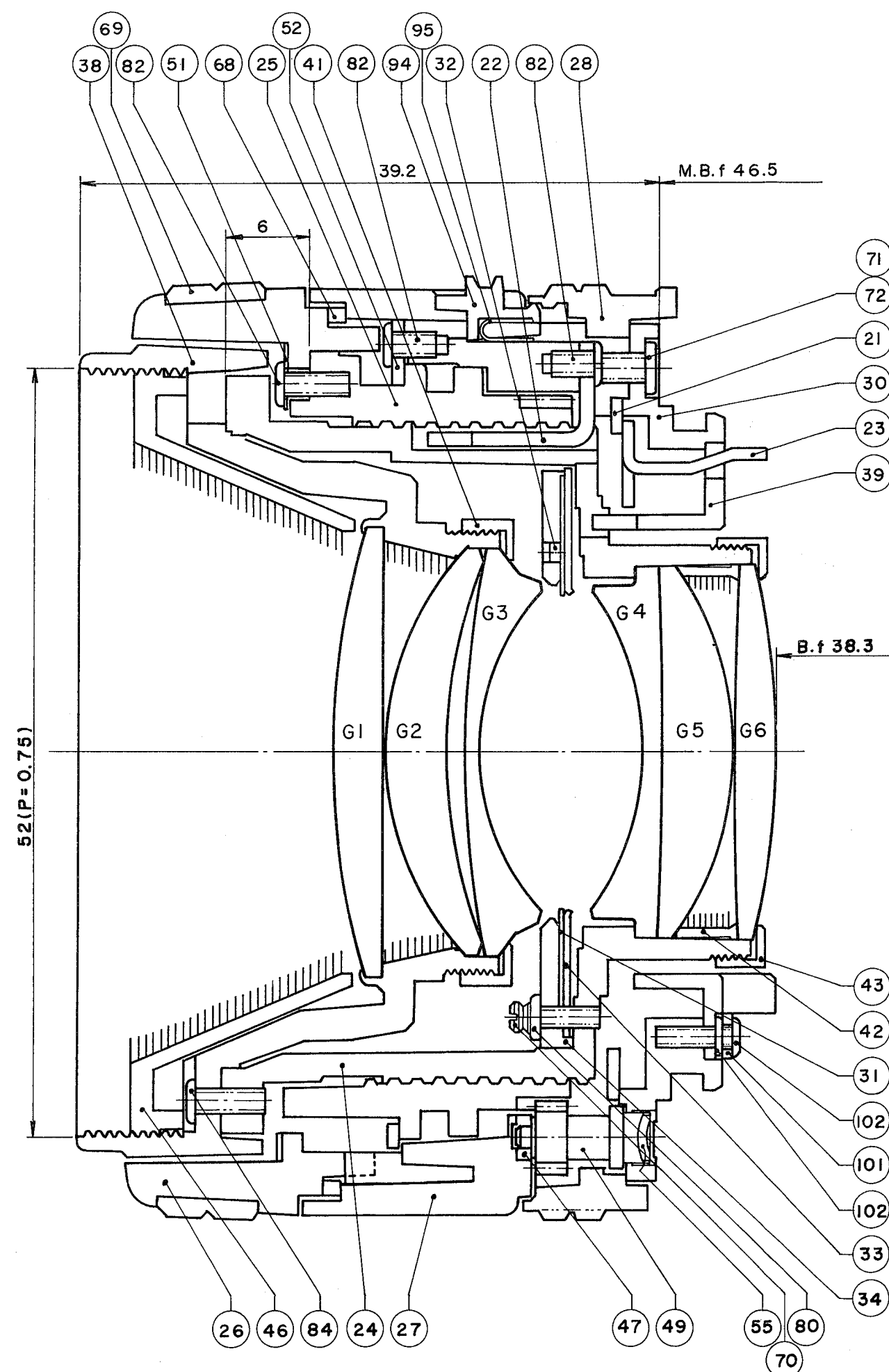


Fig. 2

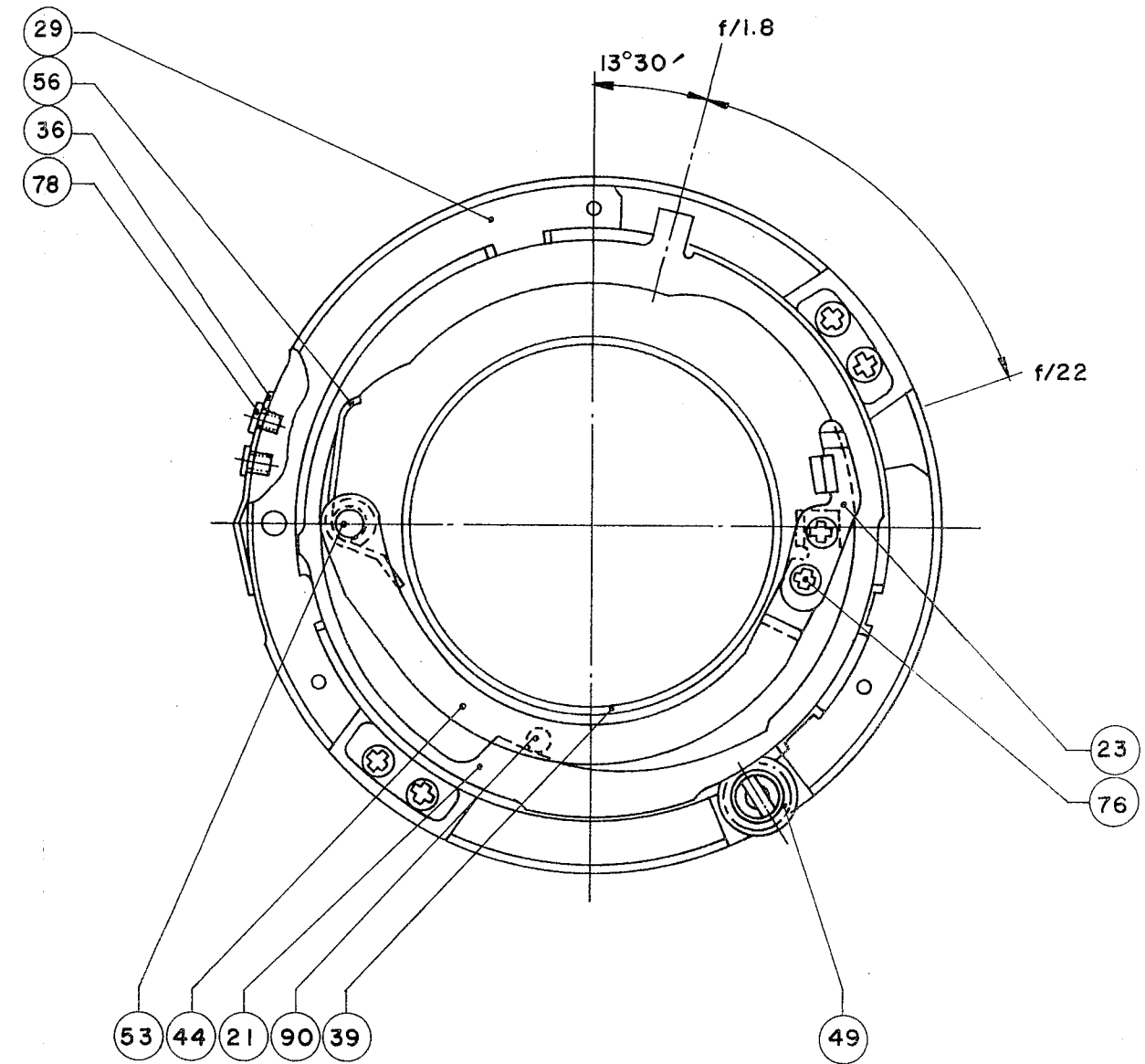
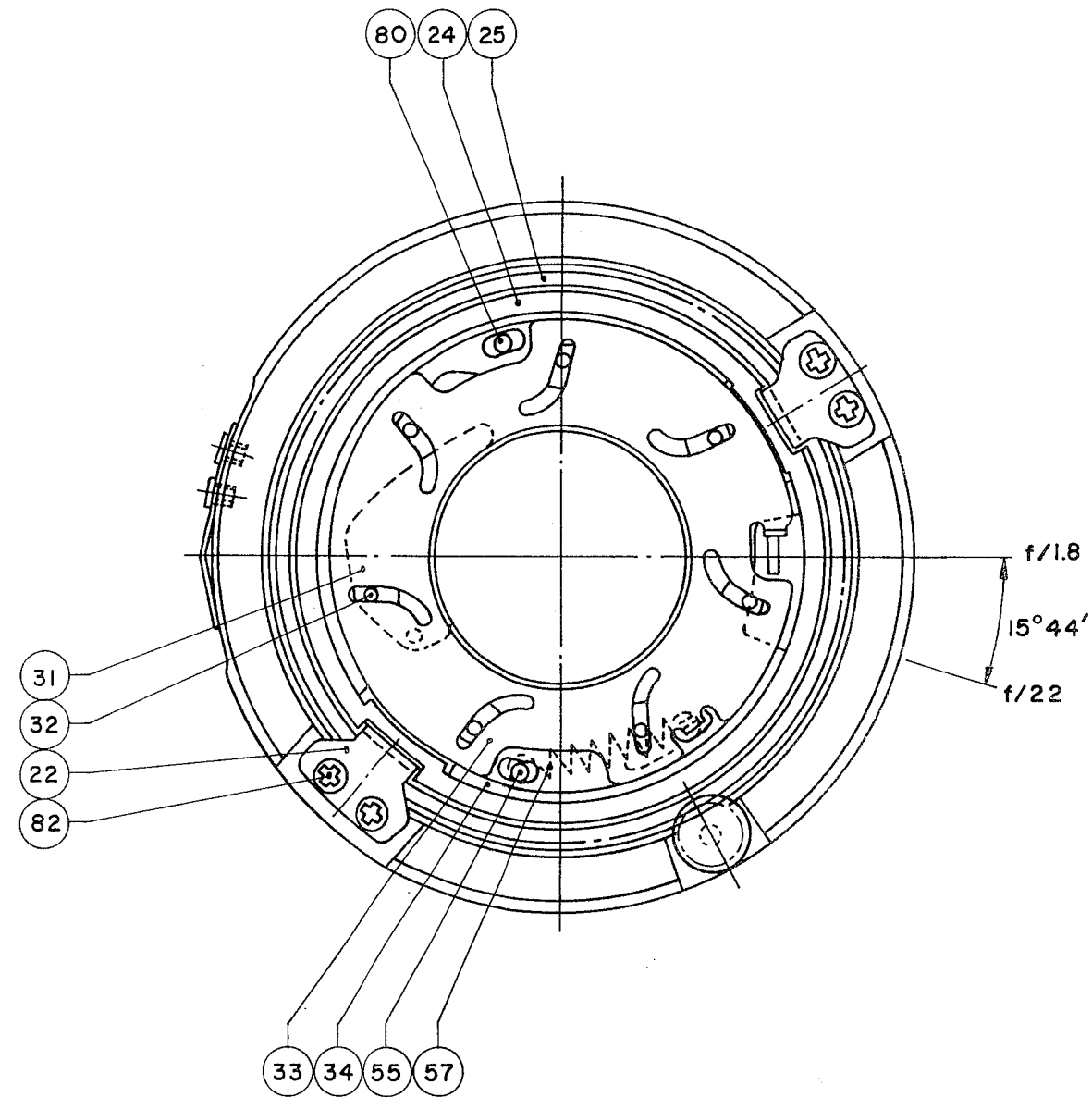
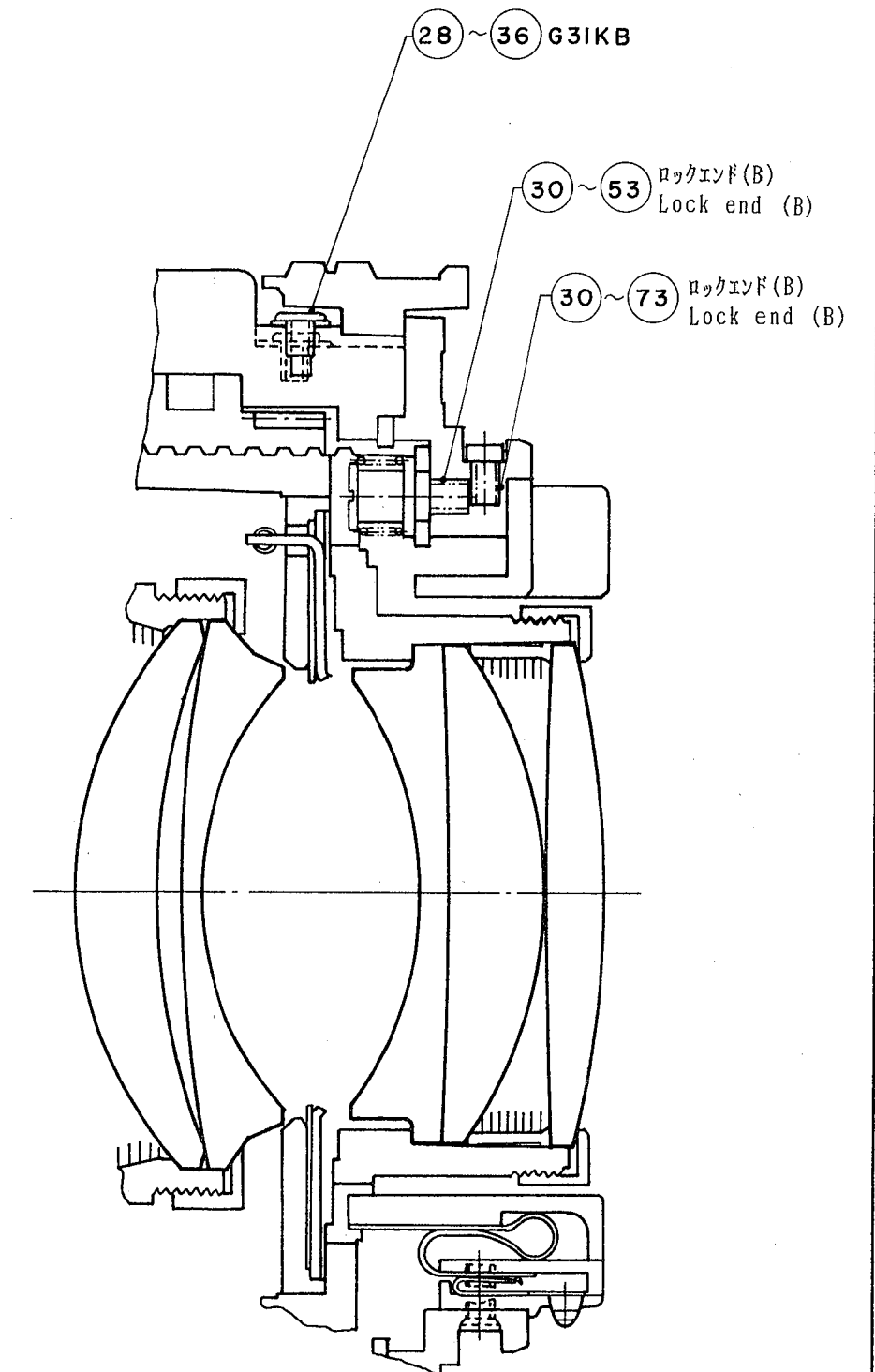
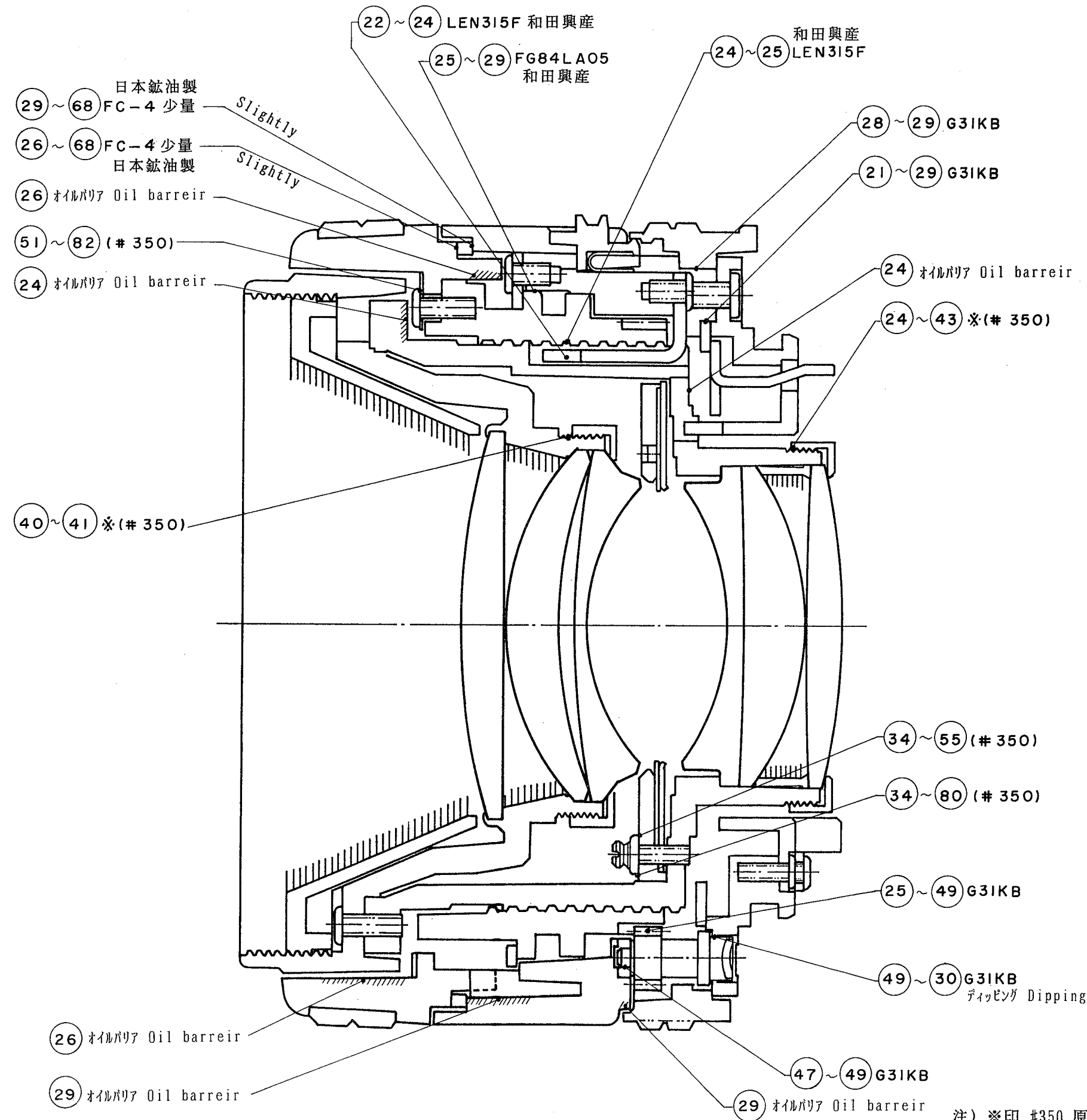


Fig. 3



注) ※印 #350 原液とアルコール 2 : 1の混合液使用のこと
 Note) Use a mixture of Adhesive #350 with alcohol in the mixing ratio of two to one.

Fig. 4

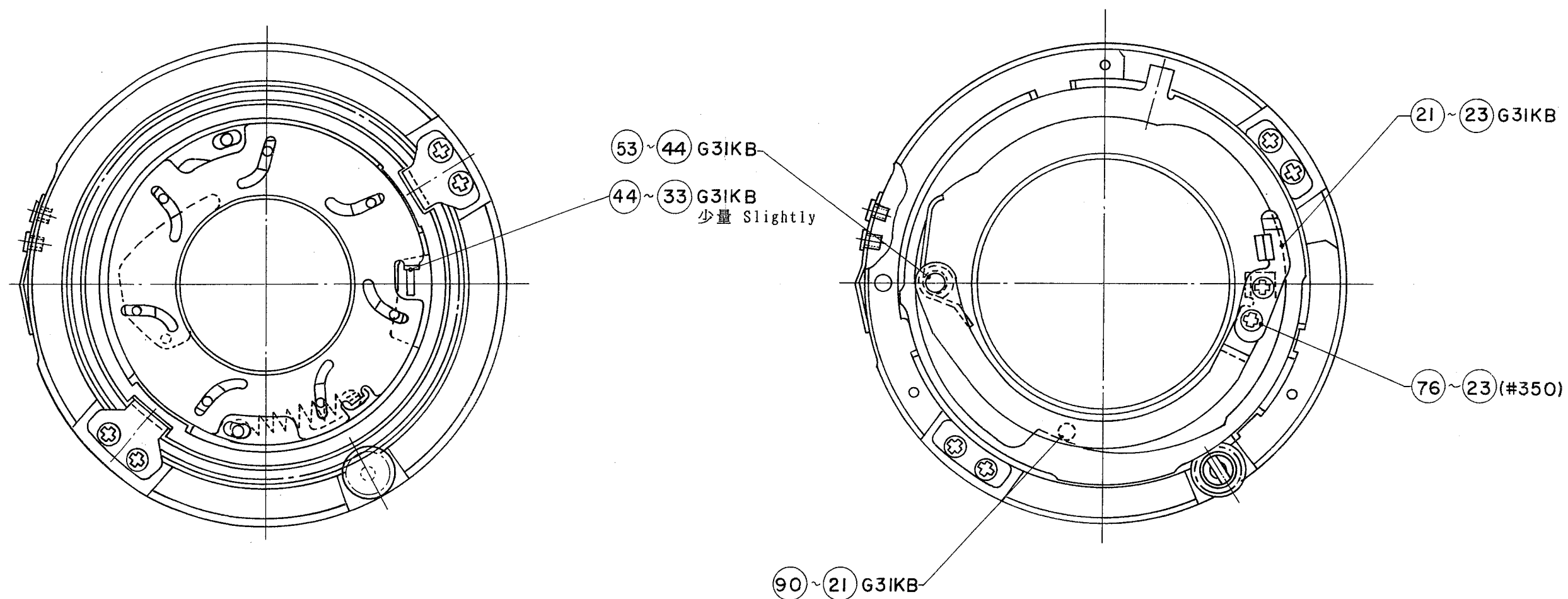
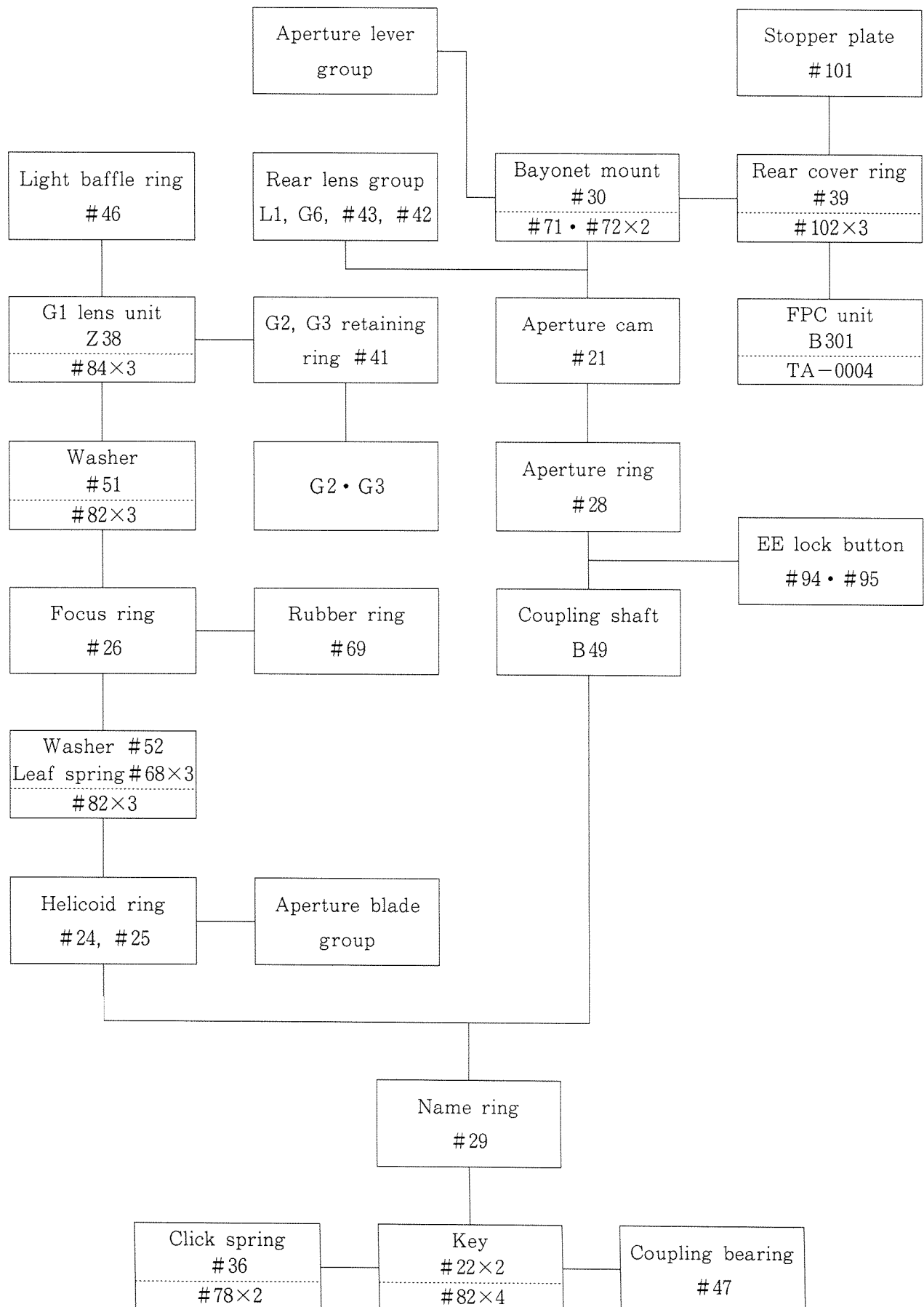


Fig. 5

[7] DISASSEMBLING / ASSEMBLING / ADJUSTMENT

1. DISASSEMBLING PROCEDURE CHART



2. DISASSEMBLING

*Refer to Disassembling Procedure Chart when disassembling. Notes on the disassembling are described below.

*Notes on disassembling:

(1) You are not required to remove following parts unless otherwise replacing or cleaning them.

- ① G2 and G3 lens elements (attached to G1 lens unit Z38).
- ② Rubber ring #69 (attached to focus ring #26).
- ③ Aperture blade group (attached to helicoid ring #24).
- ④ Rear cover ring #39 (attached to bayonet mount #30).
- ⑤ Aperture lever group (attached to bayonet mount #30).
- ⑥ FPC unit B301 (attached to rear cover ring #39).
- ⑦ Rear lens group (attached to helicoid ring #24).
- ⑧ EE lock button (attached to name ring #29).
- ⑨ Keys #22×2 (attached to name ring #29).
- ⑩ Click spring #36 (attached to name ring #29).
- ⑪ Coupling bearing #47 (attached to name ring #29).

(2) Notice following parts when disassembling;

① G2, G3 retaining ring #41

Remove black paint applied on G3 and #41.

Use alcohol to dissolve "Screw Lock" which secures screw thread part.

② G6 retaining ring #49

Use alcohol to dissolve "Screw Lock" which secures screw thread part.

③ Helicoid rings #24 and #25

Put in an installation line first when removing helicoid rings #24 and #25.

④ Keys #22×2

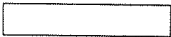
You are recommended not to remove keys #22×2. Because focus ring operation becomes malfunction if keys #22×2 is mounted in the incorrect position.

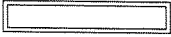
3. ASSEMBLING

Note: ① The tone of pictures may be different from actual one. Make sure of the shape of parts when disassembling and assembling.

② The mark ▽ shows the position of index.

③ Screw with a dot are tap-tight screws.

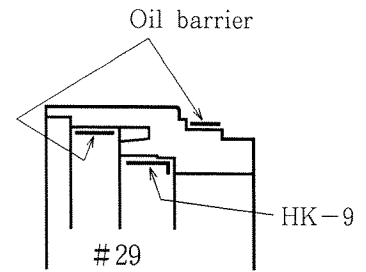
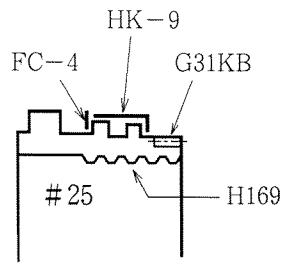
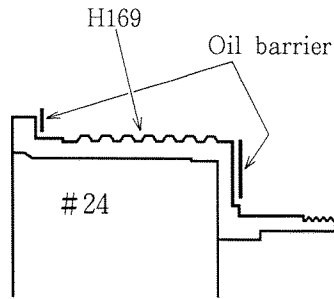
④  : Disassembling/assembling

 : Adjustment

 : Additional work

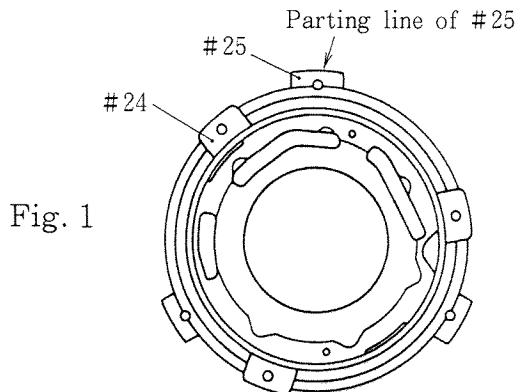
HELICOID RING #24 AND #25, NAME RING #29

*Portions to which oil should be applied:



* Apply grease H169 to two portions in the groove for keys #22x2.

Note: You can use grease (FC-4) to substitute grease (H169 and HK-9). The effect of the grease is not guaranteed under the low temperature environment (-20°C). Be absolutely sure to use grease (H169 and HK-9) under the low temperature conditions.



Mount helicoïd rings #24 and #25 at the position as indicated in Fig. 1.

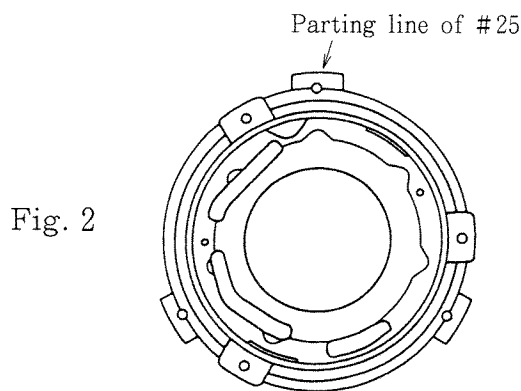
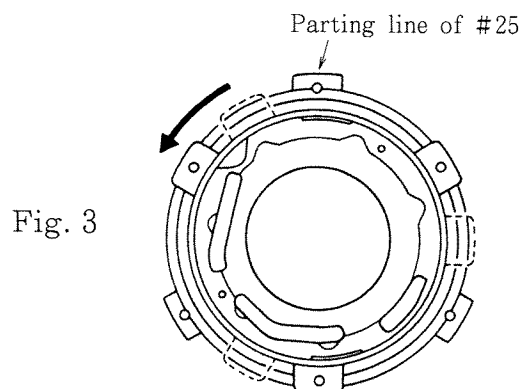
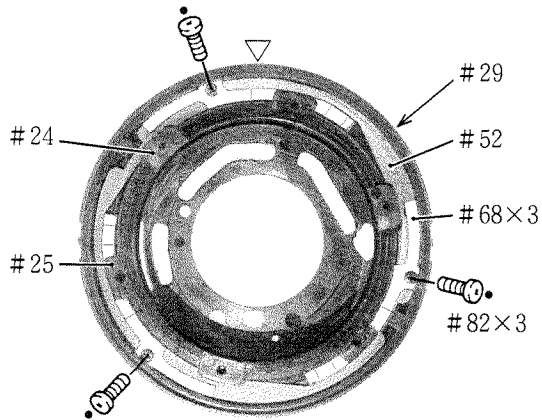


Fig. 2 shows the state where helicoïd rings #24 and #25 have been screwed in fully.



As shown in Fig. 2, screw in #24 fully and rotate the ring in the direction indicated by an arrow so that the projection of #24 comes in the middle of the projections of #25. (Refer to fig. 3)

Mount focus ring #26 while holding the position.

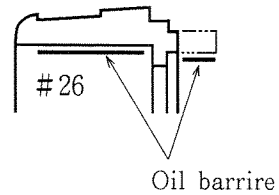
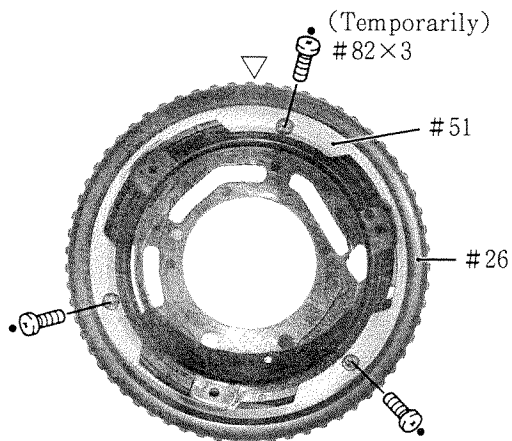


Mount helicoid rings #24 and #25 on #29 with washer #52, leaf springs #68×3, and screws #82×3.

Note: Mount washer #52 facing the surface of flash facing outside.

*If no keys #22×2 are attached, mount with screws #82×4 from the rear.

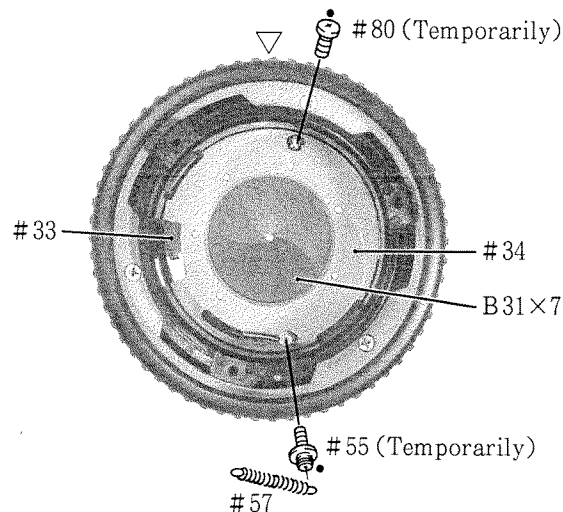
FOCUS RING #26



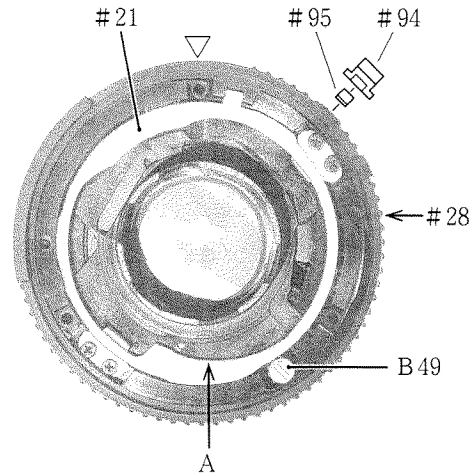
Mount focus ring #26 first, then attach it with washer #51 and screws #82×3 after aligning the ∞ mark with index.

Inspection: Check operation by rotating focus ring #26. If not operating properly, adjust the position of the keys #22×2.

APERTURE BLADE GROUP



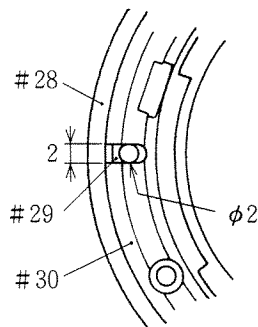
APERTURE RING #28, APERTURE CAM #21, EE LOCK BUTTOM



Portions to which grease G31KB should be applied:

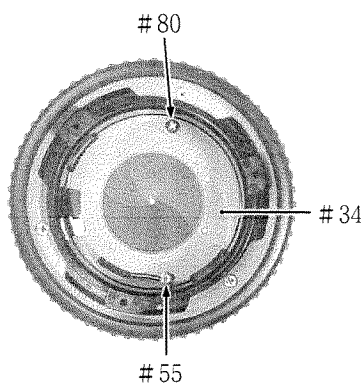
- ① Click groove of #28.
- ② Sliding surface between #28 and #29.
- ③ Internal circumference portion A of #21.
- ④ Gear part and sliding portion of B49.

INSTALLATION OF BAYONET MOUNT



Aligning the 2mm width groove of bayonet mount and $\phi 2$ hole of #29, fasten the bayonet mount with screws #71 and #72 $\times$ 2. Mount the screw #71 (black) under the index.

ADJUSTMENT OF APERTURE OPENING

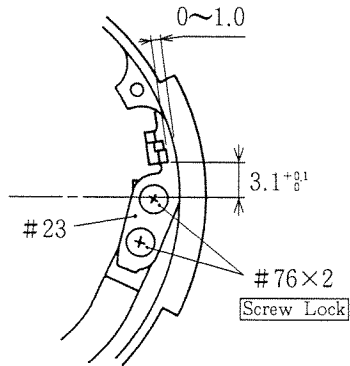


Unit: mm

Aperture setting	Inscribed circle diameter	Tolerance
1.8	21.20	20.52~21.93
2	18.76	17.37~20.26
2.8	13.08	12.11~14.13
4	9.22	8.54~9.96
5.6	6.51	5.80~7.31
8	4.61	4.10~5.17
11	3.26	2.79~3.80
16	2.30	1.97~2.68
22	1.63	1.29~2.05

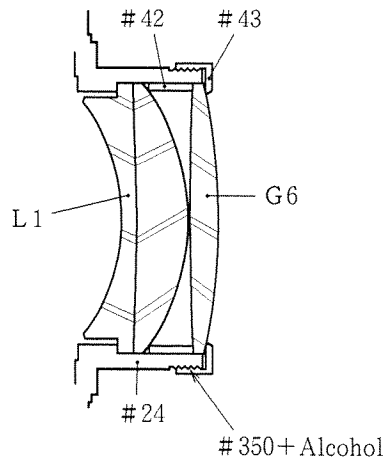
- ① Set aperture ring to f/1.8.
- ② Unfasten screws #55 and #80.
- ③ Move #34 to adjust the aperture diameter to be equal to that of blade actuating ring #33. (The shape of aperture is nearly circle and the diameter is 21.2mm.)
- ④ Fasten screws #55 and #80.
- ⑤ Check to see that aperture diameter does not change by snapping aperture lever.
- ⑥ Secure screws #55 and #80 with Screw Lock.

ADJUSTMENT OF APERTURE LEVER #23 POSITION



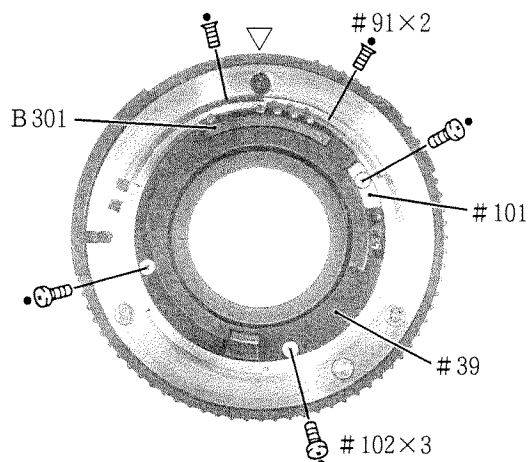
Adjust aperture diameter so that the position of aperture lever #23 comes within standard value of $3.1^{+0.1}_{-0.1}$ by unfastening screws #76×2 at full aperture. Adjust the gap between bayonet and #23 be 0 to 1.0mm. After adjustment, make sure to secure screws #76×2 using Screw Lock.

REAR LENS GROUP



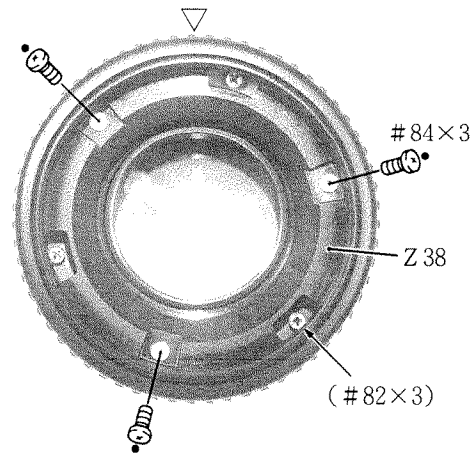
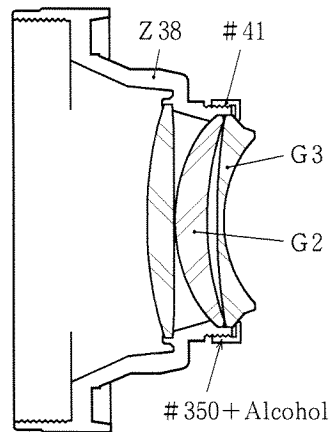
* You can insert #42 in either side for it has no directional property.

REAR COVER RING #39, FPC UNIT B301



* Attach #101 so that the stopper of aperture lever comes to $3.1^{+0.1}_{-0.1}$.

FRONT LENS GROUP

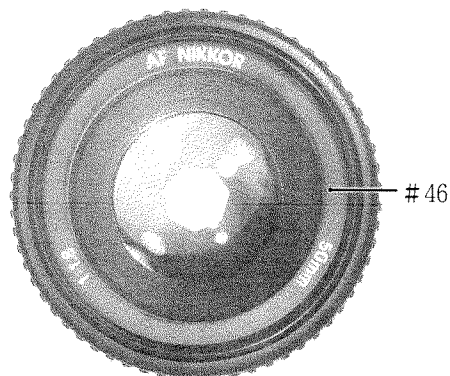


ADJUSTMENT OF BACK FOCUS

- ① Set focus ring to infinity (∞) setting and secure with adhesive tape.
- ② As shown in the photo above, unfasten screws #82×3 viewed through the hole of Z38.
- ③ Rotate #25 so that it comes within the rated value by using a screw #82.
- ④ Fasten screws #82×3 and secure with Screw Lock.

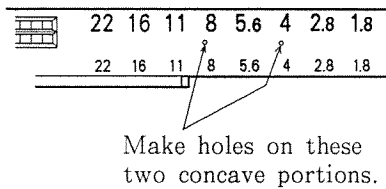
Standard: +0.015 ~ +0.075mm

LIGHT BAFFLE RING #46



Attach light baffle ring #46 and make inspection and adjustment of each section.

ATTACHING METER COUPLING SHOE



- ① Remove aperture ring #28.
- ② Make two holes $\phi 1.1$ in the concave portion of aperture ring. (Refer to figure.)
- ③ Attach meter coupling shoe.

Meter coupling shoe	1K406-029	× 1
Screw	1K010-002-1	× 2

- ④ Assembling.

Note: Attaching position of meter coupling shoe should be within the following range:

- Angle between bayonet mount's 2mm-width groove and a center of meter coupling shoe's 2mm-width groove: $65^{\circ} \pm 20'$
- Height between reference surface of bayonet mount and the rear edge of meter coupling shoe: $3 \pm 0.2\text{mm}$